



# 2013 Water Quality

FAIRCHILD AFB CONSUMER CONFIDENCE REPORT

*Committed to Providing You with Safe Drinking Water*



**Water provided by the Fairchild AFB public water system (ID# 243500) is safe to drink and meets all requirements set by the Safe Drinking Water Act (SDWA) and Washington State Department of Health (DOH).**

# Your Annual Water Quality Report

This is an annual report on the quality of water delivered by Fairchild AFB, Washington. Under the "Consumer Confidence Reporting Rule" of the federal SDWA, community water systems are required to report this water quality information to the consuming public. Presented in this report is information on the source of our water, its constituents, and the health risks associated with any contaminants.



## The Source of Your Drinking Water

Sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material and can pick up substances resulting from the presence of animals and human activity. Fairchild AFB's drinking water comes primarily from five groundwater wells, drawing water from the underground Spokane Valley-Rathdrum Prairie and Hangman Creek Aquifers. When demand dictates, additional water is obtained from the West Plains Aquifer. Water is disinfected with chlorine and then fluoridated before being pumped into the distribution system for consumption.

## Secondary Water Source

During water contingencies, Fairchild AFB can be supplied by the City of Spokane Water system through an interconnection. For information about Spokane water quality or their current Consumer Confidence Report contact the City of Spokane Water Department at (509) 625-7800 or visit [www.spokanecity.org](http://www.spokanecity.org)



## Special Health Considerations

We continually monitor the drinking water for contaminants. Our water is safe to drink; however, some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/Centers for Disease Control and Prevention (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at 1-800- 426-4791.

# Source Water Assessment

Fairchild AFB's Wellhead Protection Plan was approved by the Washington State DOH on 21 May 1997. An update was prepared on 17 Dec 2001 and again in Jan 2008. The plan and associated updates were prepared to comply with the federal Safe Drinking Water Act Amendments of 1986. In Washington, the DOH's Office of Drinking Water implements the requirements through the Washington State Wellhead Protection Program. The goal of the Wellhead Protection Plan is to prevent contamination of the groundwater used by Fairchild AFB to supply drinking water to base residents, workers, and visitors. It addresses:

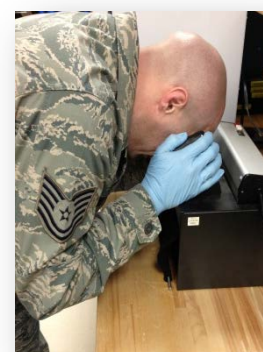
- (1) Delineation of wellhead protection areas
- (2) Inventory of potential sources of contamination
- (3) Informing interested parties regarding delineation and inventory findings
- (4) Contingency plans for alternate water sources
- (5) Emergency spill response measures

Twenty-four commercial and/or industrial locations were originally evaluated as potential sources of contamination to the main well field. Based on this evaluation, the risk level to the main well field is categorized as "low." Additionally, no existing commercial and/or industrial operations were identified that would pose a risk to the quality of water pumped from the alternate well field. If you require further information on the quality of our source water, a copy of the source water assessment or wellhead protection plan, please contact 92d Civil Engineer Squadron, Operations Engineering (92 CES/CEOE) at (509) 247-5839, Fairchild AFB, WA 99011.



## Monitoring Your Drinking Water

Fairchild AFB is committed to providing our water customers with safe, reliable and quality drinking water. Our drinking water is analyzed using EPA-approved laboratory methods. Bioenvironmental Engineering technicians retrieve water samples from representative points within the distribution system. These samples are either tested within our internal water laboratory or transported to an accredited laboratory where a full spectrum of EPA-approved water quality analyses is performed. The primary monitoring groups sampled at Fairchild AFB include but are not limited to:



Biological contaminants (total coliform group) <sup>1</sup>
Radiological
Lead and copper
Inorganic contaminants (IOCs) <sup>2</sup>
Synthetic Organic Compound (SOCs) <sup>3</sup>
Volatile Organic Compounds (VOCs) <sup>4</sup>
Disinfection byproducts & disinfectant residuals
Turbidity
<sup>1</sup> Contaminants in this group include total coliform, fecal coliform, and heterotrophic bacteria.
<sup>2</sup> Contaminants in this group include metals and nitrate.
<sup>3</sup> Contaminants in this group include such compounds as herbicides, pesticides, and insecticides.
<sup>4</sup> Contaminants in this group include such compounds as benzene, carbon tetrachloride, and trichloroethylene (TCE)



## Drinking Water & Your Health

In order to ensure that tap water is safe to drink, the Department of Health and the EPA prescribe regulations which limit the amount of certain contaminants in drinking water provided by public water systems. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. Bioenvironmental Engineering monitors for various contaminants in the water supply to meet all regulatory requirements. Common sources for detected contaminants can include the following:

### INORGANIC CONTAMINANTS

Such as salts and metals, can be naturally occurring or result from urban storm run-off, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

### RADIOACTIVE MATERIALS

Can be naturally occurring or be the result of oil and gas production and mining activities.

### PESTICIDES AND HERBICIDES

May come from a variety of sources such as agriculture, storm water run-off, and residential uses.

### MICROBIAL CONTAMINANTS

Such as viruses, parasites, and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

### ORGANIC CHEMICALS

Including synthetic and volatile organics, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water run-off and septic systems.

### LEAD

In Washington State, lead in drinking water comes primarily from materials and components used in household plumbing. The more time water has been sitting in pipes, the more dissolved metals, such as lead, it may contain. Elevated levels of lead can cause serious health problems, especially in pregnant women and young children. To help reduce potential exposure to lead: for any drinking water tap that has not been used for 6 hours or more, flush water through the tap until the water is noticeably colder before using for drinking or cooking. You can use the flushed water for watering plants, washing dishes, or general cleaning.

Only use water from the cold-water tap for drinking, cooking, and especially for making baby formula. Hot water is likely to contain higher levels of lead. If you are concerned about lead in your water, you may request to have your water tested. Information on lead in drinking water is available online at <http://www.epa.gov/safewater/lead>



## Water Conservation Tips!

***Water is a valuable resource and should be conserved.***

Water conservation (using water efficiently and avoiding waste) is fundamental to ensuring water availability in the future.

Listed below are six ways you can protect our water supply.

1. A full bath can take 70 gallons to fill, while a 5-minute shower uses just 10-25 gallons.

Shorten your shower by 5 minutes and you'll save 15 gallons, every time.



2. Invest in a high-efficiency toilet (saves 25 gallons per day) and a high efficiency washer (saves 20 gallons per load).



3. Fix leaky faucets, as just one drip a second can waste 2,000 gallons of water per year.



4. If practical, try to run the dishwasher or washing machine only when completely full. This saves more than 20 gallons per load.



5. Water your lawn only when necessary and consider landscaping with native plants adaptable to your climate's conditions.



6. Turn off the faucet while shaving and brushing your teeth, it saves 2 gallons per minute.

More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 1-800-426-4791



## Water Quality Data Tables

The following tables list all of the detected drinking water contaminants for the 2013 calendar year. The state recommends monitoring for select contaminants either initially or less than once per year because the concentrations of these contaminants do not change frequently. Some of the data, though more than one year old, is still considered representative of the quality of your drinking water. The following tables list only those contaminants that were detected. Although detected, none of these contaminants exceeded the Maximum Contaminant Level (MCL). Other contaminants were also analyzed, but were neither present nor within the detection limits of the analytical equipment. The EPA has determined that your drinking water is safe at these levels. Additionally, the system had no regulatory violations during the past year.

### **Main Well Field**

Contaminant	Units	MCLG or MRDLG	MCL or MRDL	Your Water	Sample Date	Violation	Typical Sources
<u>Inorganic Contaminants</u>							
Conductivity	µmhos/cm	700	700	234	2009	No	erosion of natural deposits
Hardness (CaCO <sub>3</sub> )	ppm	NA	NA	117	2009	No	erosion of natural deposits
Nitrate (as Nitrogen)	ppb	10,000	10,000	1,340	2013	No	runoff from fertilizer use, leaching from septic tank sewage, erosion of natural deposits
Turbidity	NTU	NA	1	0.17	2009	No	soil runoff

IOC Contaminant	Units	AL	Your Water (90 <sup>th</sup> %)*	Sample Date	Sampling Sites Exceeding AL	Violation	Typical Sources
Lead	ppm	0.015	0.0029	2012	0 of 20	No	corrosion of household plumbing systems, erosion of natural deposits
Copper	ppm	1.3	0.544	2012	0 of 20	No	corrosion of household plumbing systems, erosion of natural deposits


*\*Lead and Copper 90<sup>th</sup> Percentile: Out of every 20 sites sampled, 18 were at or below this level*


Contaminant	Units	MCLG or MRDLG	MCL or MRDL	Your Water	Sample Date	Violation	Typical Sources
<u>Radioactive Contaminants</u>							
Gross Alpha	pCi/L	Zero	15	2.8	2009	No	erosion of natural deposits
Radium 228	pCi/L	Zero	5	1.1	2009	No	erosion of natural deposits

## Alternate Well Field

Contaminant	Units	MCLG or MRDLG	MCL, TT or MRDL	Your Water	Sample Date	Violation	Typical Sources
<u>Inorganic Contaminants</u>							
Conductivity	µmhos/cm	700	700	229	2009	No	erosion of natural deposits
Fluoride	ppb	400	4,000	519	2009	No	erosion of natural deposits, water additive (to promote strong teeth), discharge from fertilizer and aluminum factories.
Hardness (CaCO <sub>3</sub> )	ppm	NA	NA	88	2009	No	erosion of natural deposits
Nitrate (as Nitrogen)	ppb	10,000	10,000	1,340	2013	No	runoff from fertilizer use, leaching from septic tank sewage, erosion of natural deposits
Sodium	ppm	NA	NA	8.28	2009	No	naturally occurring or due to road salt, water softeners, and/or animal waste
Turbidity	NTU	NA	1	0.15	2009	No	soil runoff
<u>Radioactive Contaminants</u>							
Gross Alpha	pCi/L	Zero	15	2.6	2009	No	erosion of natural deposits
Radium 228	pCi/L	Zero	5	0.46	2009	No	erosion of natural deposits

Contaminant	Units	SMCL	MCL, or MRDL	Your Water	Sample Date	Violation	Typical Sources/Definitions
<u>Secondary Contaminants</u>							
Color	color units	15	NA	10	2009	No	soil erosion <i>Note: Water color has no health effects. When color is present at levels as low as 5 units, some people may find the color aesthetically displeasing and objectionable.</i>
Iron	ppb	300	NA	226	2009	No	naturally occurring
Sulfate	ppm	250	NA	11.3	2009	No	naturally occurring
Total Dissolved Solids	ppm	500	NA	152	2009	No	soil runoff

 Over 90 Synthetic Organic Compounds (SOCs) were sampled during July 2007. None of these compounds were detected above the laboratory detection limits.

 Over 200 Bacteriological tests were sampled in 2013 with zero exceedances

# Glossary

Action Level (AL)	The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.
Conductivity	A measurement of the ability of a sample to conduct an electric current; an indication of the amount of ions in the water.
Maximum Contaminant Level (MCL)	The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
Maximum Contaminant Level Goal (MCLG)	The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
Maximum Residual Disinfectant Level (MRDL)	The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
Micromhos per Centimeter ( $\mu$ mhos/cm)	A measurement of the rate at which a small electrical current flows through a solution.
Million Fibers per Liter (MFL)	a measure of asbestos in water
Nephelometric Turbidity Units (NTU)	a unit used in measuring cloudiness in water
Parts per Billion (ppb)	a unit of measure equivalent to micrograms per liter ( $\mu$ g/L) of water
Parts per Million (ppm)	a unit of measure equivalent to milligrams per liter (mg/L) of water
Parts per Trillion (ppt )	a unit of measure equivalent to nanograms per liter (ng/L) of water
Picocuries per Liter (pCi/L)	a unit of measure of radioactivity
Safe Drinking Water Act (SDWA)	federal law which sets forth drinking water regulations
Secondary Maximum Contaminant Level (SMCL)	These standards are developed to protect the aesthetic qualities of drinking water and are not health based.
Total Dissolved Solids	a measure of all inorganic and organic particles suspended in a liquid
Variances and Exemptions	state or EPA permission not to meet an MCL or treatment technique under certain conditions

***Know Your Water. Protect Your Health***





### **Public Involvement**

This Consumer Confidence Report was prepared by the 92d Aerospace Medicine Squadron's Bioenvironmental Engineering Flight. For additional information regarding this report or if you would like to learn more about your drinking water, please contact Maj Eric Cameron or SrA Ariella Lewis at (509) 247-2391 to discuss your concerns and/or questions.

92<sup>nd</sup> Bioenvironmental Water and Environmental Quality Sharepoint Site:  
[https://eim.amc.af.mil/org/92mdg/AerospaceMedicineSquadron/SGPB/Water  
EnvironmentalQuality/default.aspx](https://eim.amc.af.mil/org/92mdg/AerospaceMedicineSquadron/SGPB/WaterEnvironmentalQuality/default.aspx)